Permit ______________

MICHIGAN WATER RESOURCES COMMISSION

PERMIT TO DISCHARGE

In compliance with the provisions of the Michigan Water Resources Commission Act (Act 245, Public Acts of 1929, as amended).

The discharge permit program is administered by the Water Quality Division of the Department of Natural Resources with offices located in the Stevens T. Mason Building, Box 30028, Lansing, Michigan 48909, Phone: (517) 373-1947. Questions concerning this permit can be directed to the District Office located at 350 Ottawa St, Grand Rapids, Michigan, Phone: [illegible]

NAME TRW Inc, Michigan Div and NAME N.A.

Address 902 Lyons Road Address ______________

Portland, Michigan ______________

(Applicant) (Governmental Unit)

~~(are)~~-(is) authorized to discharge from a facility located at

902 LYONS Rd.	(Street Address)
T6N - R5W	(Section T R)
PORTLAND, IONIA	(Township,County)
PORTLAND	(City)

to the groundwaters (at) ~~(in)~~

SAME	(Street Address)
	(Section T R)
	(Township, County)
	(City)

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II of this permit.

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight on ______________, 19___. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

This permit is based on the company's application dated October 18, 1978, and shall supersede any and all Orders of Determination, Stipulation or Final Orders of Determination previously adopted by the Michigan Water Resources Commission.

Issued this ______________ day of ______________, for the Michigan Water Resources Commission.

____
Robert J. Courchaine
Executive Secretary

STATE OF MICHIGAN

WATER RESOURCES COMMISSION

PERMIT NO._____

NAME T.R.W., Michigan Division and NAME _____

ADDRESS 902 Lyons Road ADDRESS _____

Portland, Michigan _____

(Applicant) (Governmental Unit)

T.R.W., Michigan Division
(Name)
902 Lyons Road
(Address)
Portland, Michigan

Michigan (has) ~~(have)~~ filed with the Michigan Water Resources Commission an application dated October 18, 1973 for a permit to discharge treated wastewater to the waters of the State. The application states that (Name and Address) T.R.W., Michigan Division, Portland,

Michigan, ~~(proposes to)~~ dispose(s) of approximately Two hundred Thousand (200,000) gallons per day of non contact cooling water and treated process and treated sanitary wastes from a Steering Component Manufacturing plant into the ground from its facilities (located) ~~(to be located)~~ at 902 Lyons Rd at Portland, Michigan.

The applicant, (Name) T.R.W. Inc., Michigan Division

~~(are)~~ (is) authorized, for the duration of this permit, to discharge treated wastewater to the groundwaters of the state in Section (28), T(6)(N), R(5)(W), (Portland) Township, (Ionia) County, in accordance with the conditions specified herein. Said conditions shall supersede the conditions and restrictions of Order No. 178, dated Dec 14, 1970.

1. Final Limitations

During the period beginning with permit issuance and lasting until Permit expiration, the permittee is authorized to discharge two hundred thousand (200,000) gallons per day of treated process and sanitary wastes and cooling waters from outfall 001. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations kg/day (lbs/day) Daily Aver.	Daily Max.	Other Limitations Daily Aver.	Daily Max.	Monitoring Requirements Measurement Frequency	Sample Type
Flow M^3/day (MGD)	-	-	-	-	Weekly	-
Suspended Solids	-	-	20 mg/l	30 mg/l	Weekly	24 hr comp.
Oil and Grease	-	-	-	10 mg/l	Weekly	Grab
Total phosphorous	-	-	-	1 mg/l	Weekly	24 hr comp.
Fecal Coliform	-	-	-	200 c/100ml	Weekly	Grab

The term noncontact cooling water shall mean water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product, or finished product.

a. The pH shall not be less than 6.5 nor greater than 9.5. The pH shall be monitored as follows: Weekly; Grab.

b. The discharge shall not contain any other substances in amounts which are or may become injurious to any uses of the waters of the state.

c. The discharge shall not contain oil or other substances in amounts sufficient to create a visible film on the seepage ponds.

d. Samples taken in compliance with the monitoring requirements above shall be taken at the discharge of the third lagoon to the swamp.

e. In the event the permittee shall require the use of water treatment additives, the permittee shall notify the Michigan Water Resources Commission in accordance with the requirements of Part II, Section A-1.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall submit monitoring reports on forms provided to the Chief of the Water Quality Division containing the results obtained during the previous month. Such reports shall be postmarked by no later than the tenth (10th) day of the month following each completed report period. The first report shall be submitted within 90 days of the date of issuance of this permit.

3. Definitions

a. The daily average discharge is defined as the sum of all samples by weight or concentration if specified, during the calendar month divided by the number of samples in the month.

b. The daily maximum discharge means the total discharge by weight or maximum concentration if specified, during any calendar day of the reporting period.

4. Analyses of Samples

The analyses performed to meet the terms of this permit shall be performed in accordance with the procedures set forth in the specified reference. The accepted references are as follows:

a. Standard Methods, meaning

Standard Methods for the Examination of Water and Wastewaters, 14th Edition, American Public Health Association, New York, N.Y. 10019

b. ASTM, meaning

1976 Annual Book of A.S.T.M. Standards, Part 31, Water Edition, American Society for Testing and Materials, Philadelphia, PA 19103

c. EPA Methods, meaning

Methods for Chemical Analysis of Water and Wastes, April 1974, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 45202

d. Alternate methods may be used where the same has been approved in writing by the Chief of the Water Quality Division of the Department of Natural Resources.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date and time of sampling.

b. The dates the analyses were performed.

c. The person(s) who performed the analyses.

d. The analytical techniques or methods used.

e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Operating Report. Such increased frequency shall also be indicated.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years.

1. The permittee shall submit a plan including a construction and implementation schedule to fulfill the requirements of Part II A 2 (Containment Facilities) of this permit and receive approval on or before _____. Upon completion of construction of the containment facilities and implementation of the procedures the permittee shall within 14 days certify in writing to the Chief of the Water Quality Division that the same was accomplished in accordance with the approved plan.

2. The permittee shall comply with the Power Failure requirements contained in Part II A 9(a) and 9(b) of this permit in accordance with the following schedule. All submittals shall be forwarded to the Chief of the Water Quality Division for approval.

a. Submit plans for Alternate Power Sources or such other control procedures which will comply with the Power Failure requirements on or before _____.

b. Install such approved equipment or implement such other approved control procedures to comply with the Power Failure requirements on or before _____

3. Upon completion of installation of approved equipment the same shall be reported in writing within 14 days to the Chief of the Water Quality Division. Notwithstanding the preceding sentence, the permittee shall at all times halt, reduce or otherwise control production in order to protect the waters of the State of Michigan upon the reduction or loss of the primary source of power.

4. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

Logged 4/27/79 MLB

February 21, 1979

TRW Inc.-Michigan Div.
902 Lyons Road
Portland, MI 48875

Gentlemen:

Receipt of your discharge permit application describing your existing use of the waters of the state for waste disposal purposes is acknowledged. It has been assigned to Mr. Chester Harvey, our District Engineer, for investigation. Any restriction upon this use found to be necessary will be written into a proposed permit to discharge in accordance with the requirements of Section 8b, Act 245, Public Acts of 1929, as amended and the Commission's Part 21 Rules.

You will be contacted by one of our representatives during the course of our investigation and will be given an opportunity to review the permit prior to issuance. Should you wish to make further inquiry during the processing of your application, please get in touch with Mr. Harvey of our Grand Rapids office, phone (616) 456-6231.

Very truly yours,

WATER QUALITY DIVISION

Robert J. Courchaine
Division Chief

By: Karl Zollner, Jr., P.E. Chief
Engineering & Technical Services
Section

RJC/KZ:tkr
cc: Ionia Co. Health Dept.
C. Harvey
Geology Div., DNR
City of Portland, Clerk

TRW

RECEIVED

OCT 23 1978

DISTRICT 3
WATER QUALITY DIV.

October 17, 1978

Department of Natural Resources
State of Michigan Office Building
350 Ottawa Avenue, N.W.
Grand Rapids, Michigan 49503

Attn: Chester Harvey, District Engineer

Dear Mr. Harvey,

Enclosed please find our completed application for a permit to discharge in order to convert from a stipulation document to a ground water permit.

Sincerely,

Keith Patterson

Keith Patterson, Mgr.
Industrial Engineering

KP:jam

Enclosure

MICHIGAN DIVISION OF TRW INC. • PORTLAND WORKS • 902 LYONS ROAD • PORTLAND, MICHIGAN 48875
AREA CODE 517 • TELEPHONE [redacted]

DEPARTMENT OF NATURAL RESOURCES
WATER RESOURCES COMMISSION

DISCHARGE PERMIT APPLICATION

2-74

FOR DEQ USE ONLY

RECEIVED

Please print or type. The last page of this application contains a list of instructions and other important information. Please read the last page carefully before completing this application.

1. APPLICATION FOR (Check one):

[X] Existing Discharge [ ] New Discharge [ ] Increased Discharge

2. Name of Applicant: TRW INC. - MICHIGAN DIVISION - PORTLAND PLANT
Telephone No.: (517) 647-4121
No. and Street: 902 LYONS ROAD
City: PORTLAND
State and Zip Code: MICHIGAN 48875

3. (a) TYPE OF LEGAL ENTITY (Check one):

[ ] Sole Owner [XX] Corporation [ ] Partnership
[ ] Governmental Unit [ ] Non-Profit Organization

If incorporated, indicate state in which articles of incorporation are filed: MICHIGAN

(b) TYPE OF PROPOSED ENTERPRISE (Check one):

[ ] A. Municipal Wastewater, School, Trailer Park
[X] C. Manufacturing and Mining
[ ] B. Agricultural, Including Fish Farms
[ ] D. Wholesale and Retail Trade, Other Commercial Establishments

(c) DESCRIPTION OF PROPOSED ENTERPRISE:

2 Equalization tanks prior to treatment

After treatment, 1 clarifier tank then into a series of 3 lagoons

(d) LOCATION OF PROPOSED ENTERPRISE

Street Address	City or Village			
902 LYONS ROAD	PORTLAND			
County	**Township**	**Town**	**Range**	**Section**
IONIA	PORTLAND	T. 6N.	R. 5W	28

4. SOURCE OF WATER (Example: private well, river, municipal supply):

PROCESS WATER	Municipal Supply	Amount (gal/day) 50,600/day
COOLING AND CONDENSING	Municipal Supply	Amount (gal/day) 23,000/day average
DOMESTIC WATER	Municipal Supply	Amount (gal/day) 18,400/day
OTHER (Specify)		Amount (gal/day)

5. PROPOSED LOCATION OF WASTE DISCHARGE (Example: groundwater, public sewer, county drain, lake; give name where applicable):

PROCESS WATER	Ground Water	Amount (gal/day) Lagoons - 50,600
COOLING AND CONDENSING	Ground Water	Amount (gal/day) Lagoons - 23,000
DOMESTIC WASTE WATER	Ground Water	Amount (gal/day) Lagoons - 18,400
OTHER (Specify)		Amount (gal/day)

92,000 gpd 11/84

6. DESCRIPTION OF PROPOSED TREATMENT OR CONTROL FACILITIES:

- Collection of Wastes
- Oil Removal
- P.H. Adjustment
- Sus. Solids Removal
- Through Chemical additions & clarification
- Ferric chloride and a polymer are added to the storage tanks
- Sludge from the clarifier is pumped to a sludge drying area near to the clarifier

7. DESCRIPTION OF EXPECTED CHARACTERISTICS OF WASTE AFTER TREATMENT (Bacterial, physical, chemical, other):

Process Name PARAMETER (UNIT)	STIPULATION LIMITATIONS	SURVEY RESULTS
Suspended Solids (mg/l)	35	25 (17, 11)
Oil & Grease (mg/l)	15	(7, 4)
pH (S.U.)	not ⩽6.5 nor >9.0	(7.7, 7.6)

COOLING AND CONDENSING WATER — List All Additives: Poly-Bromide @ 3-5 P.P.M.

ANTICIPATED TEMPERATURE OF DISCHARGE: Max. Summer 80 °F, Max. Winter 45 °F, Ave. Summer 73 °F, Ave. Winter 37 °F

ANTICIPATED TEMPERATURE OF INTAKE: Ave. Winter 68 °F, Ave. Summer 70 °F

SANITARY SEWAGE

OTHER (Specify)

7. DISTANCE OF TREATMENT FACILITIES FROM NEAREST WELL:

PRIVATE WELL Approx. 1120 FEET — MUNICIPAL WELL Approx. 3000 FEET

8. IF SUBSURFACE DISPOSAL OR OXIDATION POND IS PROPOSED, NEAREST DISTANCE TO A SURFACE WATERCOURSE: Approx. 600 FEET

9. IF DISCHARGE IS TO UNDERGROUND BY INJECTION WELL, INCLUDE COMPLETE DATA AS TO DEPTH AND DIAMETER OF WELL, MATERIALS AND DETAILS OF CONSTRUCTION, DATE OF DRILLING, SCREEN DATA, AND PROPOSED OPERATIONS OF INJECTION WELL ON A SEPARATE FLY SHEET.

10. Provide herewith, either by drawing in the space below or by attaching a USGS map or county map with appropriate marking, each proposed discharge point for process wastes, cooling waters or sanitary wastes.

See attached drawing & map

11. NAMES AND ADDRESSES OF PROPERTY OWNERS ADJACENT TO PROPOSED ENTERPRISE

Name: City of Portland — Address: City Hall - 259 Kent Street - Portland, Michigan 48875

Name: C & O Railroad — Address: One Northland Plaza - Southfield, Michigan

Name: Industrial Park — Address: Owned by Fred Vogt of Jacksonville, Florida

12. FOLLOWING IS A LIST OF CRITICAL MATERIALS. PLEASE INDICATE THE AMOUNT OF THESE MATERIALS USED, OR PROPOSED TO BE USED IN OR INCIDENTAL TO YOUR OPERATIONS.

I. INORGANIC MATERIALS

NAME	#1* AMOUNT (lbs/yr)	#2* AMOUNT (lbs/yr)	NAME	#1* AMOUNT (lbs/yr)	#2* AMOUNT (lbs/yr)
Antimony			Mercury		
Arsenic			Nickel		
Cadmium			Selenium		
Chromium	11#	11#	Silver		
Copper			Sulfides		
Cyanides			Thallium		
Lead			Zinc	162#	81#

II. ORGANIC MATERIALS

NAME	AMOUNT (lbs/yr)		NAME	AMOUNT (lbs/yr)	
Acridine			Hexachlorobenzene (HCB)		
Acrolein			Hexachlorobutadiene (HCBD)		
Aldrin			Hydroquinone		
Ammonia			Isoprene		
Amyl Acetate			Lactonitrile		
Anilines (incl. Benzidines)			Mesitylene		
Benzaldehyde			Mesityl Oxide		
Benzene (Solvent)			Napthol		
Benzyl Bromide			Naphthenic Acid (Napthalene)		
Beta Propriolactone			Nitrobenzenes		
Butyl Alcohol			Phenolic Compounds	66#	-0-
Butyraldehydes			Phenanthrene		
Butyric Acid			Phthalates		
Carbon Disulfide			Picramates (nitro-phenols)		
Chlorinated Benzene Compounds			Polychlorinated Biphenyls (PCB'S)		
Crotonaldehyde			Pyridines		
Cumene			Quinoline	9#	0#
DDT			Quinone		
Dichloropropane			Styrene		
Dieldrin			Terdon		
Diethylbenzene			Toxaphene		
Endrin			Vinyl Toluene		
Ethyl Acrylate			Xylenes		
Heptachlor			2-4-5 T (and its formulations)		
EDTA	18#	5#			

*#1=Purchased/year
*#2=Discharged/year

Submitted in accordance with Section 8 (b), Act 245, Public Acts of 1929, as amended.

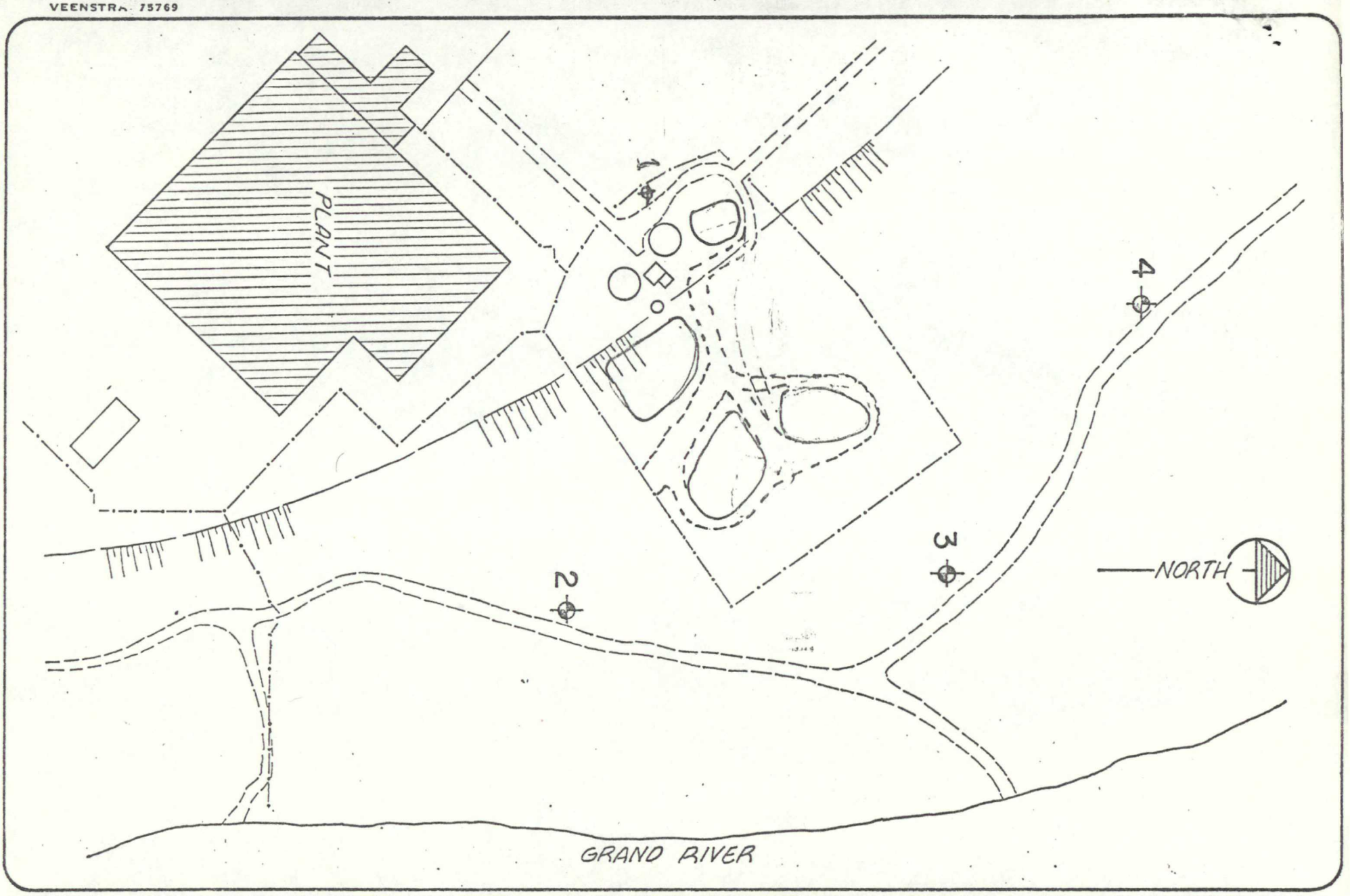
Signature of Applicant: Keith Patterson	Date: 10-18-78	If Partnership, Signature of Co-Owner	Date
Print or Type Applicant's Name and Title: Keith Patterson, Mgr. Industrial Engineering		Print or Type Co-Owner's Name	

NOTE: If sanitary sewage is to be discharged from housing developments, apartment buildings, shopping centers, or other commercial developments into a system *other* than an approved municipal sanitary waste collection system, the following should be completed and signed by an authorized municipal official or township officer.

It is the policy of the Commission to request that applications involving the disposal of sewage of human origin from any entity other than local government include the local government as a co-signer of the statement, and that all proceedings and hearings against the said entity will include the local unit of government as a party by appropriate notice, and all permits issued as a result of such hearings and proceedings will be jointly against the said unit and entity.

Signature of Authorized Local Government Representative		Mailing Address of Local Government Representative
Print or Type Name of Local Government Representative		
Title	Date	

VEENSTRA 75769



PROJECT NO. 81850
FIGURE NO.

TRW
PORTLAND , MICHIGAN

FISHBECK-THOMPSON CARR & HUBER, INC.
CONSULTING ENGINEERS
220 M. WASHINGTON AVE. LANSING, MICHIGAN
1500 EAST BELTLINE S.E. GRAND RAPIDS, MICHIGAN

NO.	REVISIONS	BY	DATE
	Date		

Drawn By L.H
Date 11-5-81
Approved By F.W.
Date 11-5-81